"POWER AFRICA" & PARTNER COUNTRY ENERGY IN THE NEWS

January 11, 2015 – February 06, 2015

Article Summaries & Full Clips

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IN THE NEWS: Featured Partner Country Energy News

January 11 – February 06, 2015

POWER AFRICA, AFRICA & REGIONAL NEWS

Power Africa: Don't Let Ebola Obscure Africa's Larger Promise and Challenges

DipNote – U.S. Department of State Official Blog

There is the land of Ebola, Boko Haram, and hunger in the Horn of Africa. The headlines are gripping, the images indelible, and the narratives tragic. Then there is the New Africa -- the booming "African Lion" economy that is a new center of growth in global commerce, creating more opportunities for its people than ever before.

Power Africa: East Africa's first utility-scale PV plant boosts Rwanda's electric generation capacity by six percent

Feb. 2 | SolarServer

Gigawatt Global's 8.5 MW solar field in Rwanda is the first utility-scale PV project to reach financial close and come online under the United States Government's ACEF (Africa Clean Energy Finance) program, which is an integral part of the Power Africa Initiative.

Africa: Africa's quiet solar revolution

Jan. 25 | The Christian Science Monitor

A new solar energy movement is bringing kilowatts to previously unlit areas of Africa – and changing the lives of hundreds of thousands of people. The idea behind the latest effort isn't to tap the power of the sun to electrify every appliance in a household. Instead, it is to install a small solar panel not much bigger than an iPad to power a few lights, a cellphone charger, and other basic necessities that can still significantly alter people's lives.

Africa: Will Africa's biggest wind power project transform Kenya's growth?

January 29 | CNN.com

The 300 MW Lake Turkana Wind Power Project, which is being developed in the country's North-East, hopes to produce 20% of the country's current installed electricity generating capacity when it comes online in 2016.

The $694 million project achieved full financial close in December 2014, making it the largest private investment in Kenyan history.

East Africa - Uganda: Kampala Slaughterhouse Turns Waste to Biogas

Feb. 2 | Thompson Reuters

Uganda's largest slaughterhouse runs 24 hours a day, turning up to 700 cattle, 200 sheep and 300 chickens each day into meat for the local market. But the energy-thirsty Kampala City Abattoir is often brought to a stutter by the city's daily power outages, which can last up to 12 hours. At those times, it is forced to rely on polluting diesel generators that are expensive to run.

GHANA

General Electric to produce 1,200 Megawatts of power

Jan. 28 | GhanaWeb.com

American multinational giant, General Electric (GE), says it is ready to roll out its Ghana 1,000 power project. The $1-billion project will lead to the establishment of a 1,200-megawatt thermal power project in the Western Region.

Power crisis: Energy Commission considers compulsory use of solar for homes

Feb. 5 | citifmonline

The Energy Commission (EC) has commenced moves to get a law which will make it compulsory for home owners to inculcate the use of solar in new buildings following the country's power crisis.

KENYA

Kenya Focused On Developing Green Energy, Says Ruto

Jan. 23 | CapitalFM

The Government plans to provide electricity to at least 70 percent of Kenyans in the next three years, Deputy President William Ruto has said. Speaking in Davos, Switzerland, Ruto said the

government had engaged in the ambitious project including infrastructural development so as to spur economic growth. He said Kenya wanted to create an environment that will attract investment to the country and create employment.

Naivasha Biogas Plant to Add 2.2mw to the National Grid
Feb. 4 | CapitalFM
A green power plant that uses organic crop waste is set to be commissioned in March 2015 in Naivasha, adding up to 2.2MW to the national grid. Tropical Power Energy Group has built the first Anaerobic Digester (AD) plant in Africa with a plan to supply electricity to Kenya Power.

Slum Electrification Programme for Slum Residents Only - KPLC
Feb. 5 | The Star
KPLC has said the subsidized slum electrification programme will only serve qualified slum residents. This is after the company said it received queries from customers and members of the public regarding electricity connection charges.

Solar to Grab Bigger Slice of Kenya's Clean Energy Pie
Jan. 23 | Thompson Reuters Foundation
Kenya is moving to boost its solar energy capacity, with a new plant now under construction aiming to start producing electricity for the national grid by January 2016. This heralds a shift in the balance of the country's efforts to embrace renewable energy, which have so far focused on hydropower, geothermal and a small amount of wind.

Turning Blood to Power, Maasai Pastoralists Begin Bottling Biogas
Jan. 11 | Thompson Reuters
Maasai pastoralists have found an innovative way to generate biogas: using animal blood and waste from the Keekonyokie slaughterhouse. The facility in Kenya's Kajiado County uses the gas it produces to generate electricity that powers the meat cold room and processing equipment. It also pipes the gas to local hotels, while the slurry becomes fertiliser for grazing pastures.

NIGERIA

FG to Inaugurate Over 1 Million Prepayment Meters
Jan. 15 | The Guardian
The Minister of Power, Prof. Chinedu Nebo, on Thursday in Abuja said that the Federal Government would soon inaugurate over one million prepayment electricity meters to reduce the metering gap nationwide.

Lagos to Deploy Solar Energy in 172 Rural Schools By June
Feb.4 | Vanguard
The General Manager of the Lagos State Electricity Board, Mrs. Damilola Ogunbiyi, on Wednesday said the state would deploy solar power in 172 rural schools in the state by June. Ogunbiyi spoke in Lagos when the Lagos branch of the Nigerian Institution of Electrical and Electronic Engineers (NIEEE) paid her a courtesy visit.

Oil-Rich Niger Delta Aims to 'Light Up' With Renewable Energy
Feb. 2 | deutsche welle
The Niger Delta is the source of Nigeria's oil. But even here, most people struggle to access grid electricity. Efforts are now being made to diversify to renewable energy as a way of dealing with frequent power cuts.

Torrent Energy Plans 30 Mw Waste-to Power Plant
Jan. 20 | Daily Independent
An indigenous firm, Torrent Energy Limited has revealed that it has concluded plans to build a 30 mega watts waste-to-energy plant as its contribution to improving energy situation in the country.

UNDP, Govt, Stakeholders Mull New Energy Master Plan
Jan. 29 | The Guardian
The United Nations Development Program (UNDP), Energy Commission of Nigeria (ECN) and stakeholders in the energy sector commenced the validation of a new energy master plan for Nigeria. When finally approved by the Federal Government, the document is expected to chart the way for renewable energy and energy efficiency in Nigeria.

TANZANIA

IFC to Support Solar Projects
Feb. 5 | Tanzania Daily News
The International Finance Corporation (IFC) has announced new financing to help expand the reach of Off Grid Electric in rural areas and urban centres.

Maasai Bomas to Get Solar Power, Computer Connections
Jan. 26 | Tanzania Daily News
The International Collaborative for Science Education and Environment (ICSEE) Tanzania in association with the Adventists Development and Relief Agency (ADRA) is executing the 'Maasai Stoves and Solar Project' which is in its fourth year now.

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1. Power Africa: Don't Let Ebola Obscure Africa's Larger Promise and Challenges | DipNote

At a glance, one could find a tale of two cities in Sub-Saharan Africa.

There is the land of Ebola, Boko Haram, and hunger in the Horn of Africa. The headlines are gripping, the images indelible, and the narratives tragic.

Then there is the New Africa -- the booming "African Lion" economy that is a new center of growth in global commerce, creating more opportunities for its people than ever before.

It is well-known that Africa's economies are growing faster than elsewhere, but it is less known that the business environments in many of Africa's countries are improving more quickly than anywhere else and helped further private-sector led growth there. In the next five years alone, Africa's gross domestic product is forecast to increase by more than $1 trillion. In terms of scale, this will be tantamount to adding the economic productivity of Virginia, Michigan, Nebraska, Delaware, Maine, and Montana combined onto African soil.

Given Africa's population profile, in 15 years it will have a labor force larger than China's and could well have the fastest growing economy between now and then.

The truth is that both these portrayals are only stick drawings compared with the complex, evolving portrait of Africa's future.

How much do we really know about Africa's future?

For all its rollicking economic growth, there is a profound question of who is benefiting. Have the benefits reached the poorer regions? Have they reached the fragile states? Have they reached rural areas? To sustain its growth, Africa will need to reach beyond existing islands of rising prosperity.

We know that electricity is the linchpin of this inclusive growth. Today, more than 600 million Africans still lack regular access to electricity. This means that a population nearly double that of the United States cannot even turn on a light bulb at will. This affects every aspect of life: food, water and sanitation, manufacturing, education, and of course, health care.

We know that Africa's billion-plus population is young. With a median age of 20, it is a full decade younger than the global population as a whole. And we know that younger populations are more likely to experiment with new technologies at a higher rate, adopt them, invest in them and find unexpected ways to create economic value using them.

This is precisely why America's strategic and economic engagement with Africa comes at such a pivotal point, a reality recognized by both U.S. President Barack Obama and the U.S. Congress.

The President's Power Africa initiative -- through a mix of catalytic capital, technical assistance and investment climate reforms -- is attracting new, major private investors to the sector as never before. Blackstone, the Carlyle Group, and Dangote Industries, among others, have announced a combined $5 billion in new financing commitments to energy infrastructure in Africa.

At a time when energy production and transmission costs in many subsectors are plummeting, Africa's vast, diverse geography is increasingly examined for new approaches: on-grid, mini-grid and

off-grid projects; conventional fuels, renewables and combinations; and energy systems that are fully commercialized and those that require some subsidy element.

As we enter into the new year, we note the staggering fact that Africa will have installed more renewable energy capacity in 2014 than it has in the previous 14 years combined.

Africans recognize that they need to continue experimenting with new technologies in rural areas, even as they seek to reach the tens of millions who live within the reach of established electric grids.

In short, we are witnessing an all-of-the-above approach like nowhere else on the planet. Africa now stands a very good chance, in many countries, of installing modern, clean, efficient, next-generation variants of energy infrastructure before other nations.

The impact will be felt far and wide across the continent, and it will be decisive in determining whether Africa's economic growth will translate into ever wider prosperity.

The spread of Ebola is tragic and scary. The world health community has come together to help halt this horrific disease, and progress is being made. But Ebola is affecting the lives of a tiny fraction of 1 percent of Africans.

So we should all be able to see beyond the clichéd images of "the dark continent." Indeed, Africa may ultimately have cleaner, brighter lights that others come to study.

About the Author: Elizabeth Littlefield serves as President and CEO of the Overseas Private Investment Corporation, the U.S. government's development finance agency.

Editor's Note: This entry originally appeared as an opinion piece on Devex.

2. Power Africa: East Africa's first utility-scale PV plant boosts Rwanda's electric generation capacity by six percent | Feb. 2 | SolarServer

Source URL: http://www.solarserver.com/solar-magazine/solar-news/current/2015/kw06/east-africas-first-utility-scale-pv-plant-boosts-rwandas-electric-generation-capacity-by-six-percent.html

Only 12 months after the official signing of the Power Purchase Agreement (PPA), Gigawatt Global (Amsterdam, The Netherlands) has succeeded in financing, constructing and interconnecting a USD 23.7 million 8.5 MW solar photovoltaic (PV) power plant at the Agahozo-Shalom Youth Village (ASYV), culminating in a ceremonial ribbon-cutting event.

Gigawatt Global's 8.5 MW solar field in Rwanda is the first utility-scale PV project to reach financial close and come online under the United States Government's ACEF (Africa Clean Energy Finance) program, which is an integral part of the Power Africa Initiative.

Rwanda's Minister of Infrastructure, Hon. James Musoni, and the Chief of Staff of the U.S. Government's Overseas Private Investment Corporation (OPIC), John Morton, will lead the ribbon-

cutting on Thursday, February 5th, 2015, and will be joined by international representatives of the partners that developed the landmark project.

International consortium of financing partners

The Rwanda PV plant - constructed in the shape of the African continent - brought together an international consortium of financing partners. Debt was provided by FMO (Netherlands Development Finance Company) and the London-based EAIF (Emerging Africa Infrastructure Fund); mezzanine debt provided by Norfund (the Norwegian Investment Fund for Developing Countries); equity from Scatec Solar ASA (who also served as EPC contractor and serves as O&M provider), Norfund and KLP Norfund Investments (a vehicle jointly owned by KLP, the largest pension fund in Norway, and Norfund).

Grants were received from the United States Government via OPIC's ACEF (Africa Clean Energy Finance) grant and from the EEP (Energy and Environment Partnership) Programme, a partnership of the British, Norwegian and Austrian governments.

Solar power for 15,000 homes

“Top quality developers like Gigawatt Global are the keys to success for President Obama's Power Africa Initiative,” said Elizabeth Littlefield, President and CEO of OPIC.

“After OPIC provided critical early-stage support through the ACEF program, Gigawatt smoothly and swiftly brought the project online to give Rwanda enough grid-connected power to supply 15,000 homes. Gigawatt Global in Rwanda is a clear demonstration that solar will be a key part of Africa's energy solution.”

“We want to thank President Obama and Secretary Kerry, along with our other financial partners, for the opportunity to celebrate this landmark electricity-generating project under Power Africa,” said Yosef Abramowitz, President of Gigawatt Global.

Gigawatt Global is one of almost 90 private sector partners involved in the U.S. Government's Power Africa Initiative, which is designed to increase access to electricity throughout all of sub-Saharan Africa.

By providing creative financing, business development support and commercial advocacy through various U.S. Government agencies, Power Africa represents a new model of development which facilitates the work of its partner companies in developing new energy sources, including wind, solar, hydropower, natural gas, and geothermal resources in all of sub-Saharan Africa.

“The people of Rwanda should be proud to host the first utility-scale solar power plant in East Africa, and we hope that the pioneering spirit of Rwandan authorities may serve as an inspiration to other countries in the region. The ASYV project will be an important source of clean and reliable electricity for the next 20 years and beyond, and we are proud of having made this possible in cooperation with our partners Gigawatt and Norfund,” said Torstein Berntsen, Executive Vice President of Scatec Solar ASA.

3. Africa: Africa's quiet solar revolution | Jan. 25 | The Christian Science Monitor

Source URL: http://www.csmonitor.com/World/Africa/2015/0125/Africa-s-quiet-solar-revolution

Arusha, Tanzania — By Tanzanian standards, Nosim Noah is not poor. A tall, handsome woman with the angular features of her fellow Maasai tribe members, Ms. Noah makes a good living selling women's and children's clothes in the markets of this northern Tanzanian city. The four-bedroom brick house she shares with her parents and three children outside town has many modern comforts: mosquito screens on the windows and doors, a gas cookstove, and, most important, a faucet with running water in the back of the yard, next to a stall with a working toilet.

But despite their relative prosperity, up until late 2013, the family had no electricity.

"We waited 10 years for them to turn the power on – 10 years and nothing," says Noah.

Then, one afternoon, the Noahs had an unexpected knock on the door. An agent for a new electrical company called M-POWER said that, for a sign-up fee of only 10,000 shillings ($6), he could install a fully functioning solar home system in their house – enough to power several LED lights and a radio. The payoff was immediate. While Noah used to spend $18 a month on kerosene, she now pays a monthly average of $11 for her solar lighting, and she no longer has to go into town to charge her cellphone. The person most affected, though, may be her 2-year-old daughter, Emilia, who is afraid of the dark.

"She would cry every night – every single night," says Noah. "It was a struggle to put her to sleep." Now, with a new light above her bed, "it makes a huge difference," she says.

The changes taking place under the Noahs' roof are emblematic of a quiet revolution sweeping across much of rural Africa and the developing world.

Until recently, the lack of electricity in many poor areas was seen as something of an inevitable fact of life. Building power grids across long distances to reach remote communities is slow and costly, and when the people in those communities are subsistence farmers living on less than $2 a day, the returns often fail to justify the massive investment.

Now, however, a new solar energy movement is bringing kilowatts to previously unlit areas of Africa – and changing the lives of hundreds of thousands of people. The idea behind the latest effort isn't to tap the power of the sun to electrify every appliance in a household. Instead, it is to install a small solar panel not much bigger than an iPad to power a few lights, a cellphone charger, and other basic necessities that can still significantly alter people's lives.

Going smaller better fits the budgets of the rural poor. People use the money they normally would spend on kerosene to finance their solar systems, allowing them to pay in small, affordable installments and not rely on government help. The concept is called pay-as-you-go solar.

Many see it as helping to overcome the problems that have plagued previous solar "revolutions" in Africa. Richard Hosier, a senior analyst at the World Bank, likes to tell the story of his first encounter with solar panels in Africa.

“It was in a village in Kenya, in 1981, during the Carter administration,” he recalls. “There were solar panels all right – cut into little bits to make necklaces for the women.”

African villages, Mr. Hosier says, are littered with failed solar projects donated by well-meaning government agencies or nongovernmental organizations that installed the technology but couldn’t afford to follow up with maintenance or battery replacements.

While some remain skeptical of the new approach, many believe the scale of the current movement, coupled with the involvement of local entrepreneurs and the changing economics of solar power, will make it different this time around. Some observers are even asking, Will rural Africa leapfrog the carbon energy age altogether and go directly to a solar-powered future?

* * *

No one doubts the need to bring kilowatts to remote areas of the developing world. According to the International Energy Agency, more than 1.3 billion people – one-sixth of the world’s population – lack access to modern energy services. In Tanzania, 81 percent of the population live without electricity.

Instead, many of these people rely on candles, battery lamps, and CO_2 -emitting kerosene lanterns and diesel generators to light their homes. This can be expensive. Kerosene and diesel, the two main fuels available to the poorest of the poor, are among the costliest for consumers. The United Nations Environment Program estimates that Africans spend between $12 billion and $17 billion a year on fuel-based lighting. In Asia, people spend $9 billion to $13 billion.

These fuels are also dirty. Burning kerosene in African homes and small businesses causes an estimated 30 million to 50 million tons of CO_2 emissions annually, according to a 2010 study commissioned by the World Bank. Globally, kerosene use releases 190 million tons of CO_2 into the atmosphere each year – an amount greater than the emissions of Australia and Britain combined. Replacing all of the world’s kerosene lamps with clean energy sources would have the same environmental impact as taking 30 million cars off the road, the study noted.

Underlying this welter of statistics is the main reason that advocates think the moment is propitious for a small solar revolution in Africa – improving economics. The Global Off-Grid Lighting Association, a nonprofit group based in the Netherlands, estimates that an African household living on $2 a day can save as much as 86 percent of its expenses for kerosene and mobile-phone charging by switching to solar.

Many residents of Tanzania who have installed solar panels have already felt some of these effects on their wallets, as well as in other ways. In one village, a resident describes how he’d stopped feeling the throbbing pain behind his eyes that came from working evenings in dim light.

In another case, a woman says that her 3-year-old son’s chronic cough improved dramatically once he stopped breathing in kerosene fumes daily. Salome Simon, a young single mother in the northern Tanzanian village of Oldadai, mentions a more unusual benefit: Thieves stopped stealing the chickens in the coop outside her house after she hung a bright solar-powered LED light above her doorstep.

Yet solar is spreading for other reasons as well. As technology has improved, the cost of photovoltaic panels has dropped by more than 99 percent since 1977. LED lights and batteries are also becoming increasingly affordable.

Perhaps even more important, a new technology has come along in recent years that has had a deeply transformative impact on developing economies: cellphones. Cellular networks in Africa have spread at a pace that no one anticipated a decade ago, now covering more than 85 percent of the continent.

“Say you’re one of our customers, a Tanzanian farmer living on less than $5 a day,” says Xavier Helgesen, cofounder and chief executive officer of Off-Grid Electric, M-POWER’s parent company.

“You won’t have electricity, and you certainly won’t have a bank account, but you’ll have a cellphone.”

Their ubiquity, along with the development of mobile payment technologies that are commonly used by Africans, has helped change the calculus for entrepreneurs such as Mr. Helgesen. Before, transactions in rural Africa were cash-only – an open window for corruption, and a huge obstacle to business. Now, M-POWER’S solar home systems have meters digitally linked to the customers’ cellphone numbers. No matter how poor they are, or how remote their village is, customers can pay for the electricity consumption recorded by the meter simply by sending a text message.

All these factors have emboldened a generation of entrepreneurs to venture into the Wild West that is the last mile of electrification. Companies with business models rivaling M-POWER’s are flourishing all across East Africa, South Asia, and to a lesser degree in South America (where existing electrification rates are higher). According to the Consultative Group to Assist the Poor (CGAP), a World Bank-backed umbrella group of 34 organizations, at least 25 companies are promoting pay-as-you-go solar products and services across the developing world, with an estimated 250,000 such products sold as of late 2014. The organization projects that at least 3 million pay-as-you-go solar systems will be sold around the world in the next five years.

The numbers are even more impressive in countries where solar has benefited from government backing. In Bangladesh, more than 2.9 million pay-as-you-go solar home systems have been financed by Infrastructure Development Company Limited, a government-backed solar bank launched in 2003. The country is now installing systems at a rate of 80,000 a month, with a target of 6 million sold overall by 2017.

CGAP sees such technology as allowing developing countries to carve out an energy future that is smarter, cheaper, and cleaner than the one the West pursued decades ago. As energy consultant Julian Popov put it in a recent opinion piece he wrote for Al Jazeera, most African countries never did string phone lines to every home and business – and in the end, they didn’t have to. Just as African mobile-phone networks skipped the land-line phase, he believes that African solar companies could bypass the fossil fuel era.

* * *

On a hot, dusty afternoon, more than 80 villagers wait patiently for their turn to climb on the corrugated tin roof of the tallest house in Oldadai. Surrounding them is a team of recruiters holding clipboards and wearing T-shirts emblazoned with M-POWER’s lightning-bolt logo.

“If you join us, you’ll be climbing on roofs all the time to install solar panels,” says Raphael Robert, the lean, athletic Tanzanian who is head of expansion at the company. “If you can’t climb on the roof, then I’m sorry but you’re out.”

The unorthodox recruiting session is part of the young company’s aggressive blueprint. In every village it does business, M-POWER hires local “agents” – villagers who are trained to sell, install, and repair the start-up’s low-cost solar home systems. Typically, Mr. Robert and his team meet with a dozen or so candidates. But word of mouth on the company is spreading, and when they show up at Oldadai, a large crowd is waiting.

“There were old people, young people, village councilmen, schoolteachers, the pastor ... everyone wanted to try out,” says Robert. With too little time to interview them all, Robert does what his job at M-POWER often calls for: He improvises.

The ability to hire and train local staff is one of the key factors of these companies’ success – and one of the biggest challenges they face in electrifying rural Africa.

At the production center of a Tanzania-based solar micro-grid company called Devergy, a sign on the door of the outgoing inventory room reads, in bold red letters: “TUO.” It’s supposed to be “OUT,” but a local painter read the model that was handed to him backward, and obligingly reproduced it.

“We kept that sign as a reminder of the challenges we’ll inevitably face, which are never what you’d expect,” says Fabio De Pascale, the chief executive of Devergy.

Distribution is another complication faced by companies looking to sell their product in the developing world. How do you reach customers in areas where there are no roads, no infrastructure, and no delivery service?

“We basically had to build, from scratch, the equivalent of FedEx for rural Africa,” says Erica Mackey, M-POWER’s chief operating officer, a young Texan with long, flowing blond hair and cowboy boots.

The key, she and her partners realized, was to build on the existing local economy. Instead of opening new shops when they expand into an area, they team up with the little roadside “dukas” (general stores) in every village. To get their products to the stores, they partner with area minibus and mototaxi drivers who deliver the systems along their route. The final link is the local M-POWER agents themselves, who pick up the systems at the duka, then deliver and install them at customers’ homes.

Investors as far off as Silicon Valley are starting to take notice of the technology. More than $45 million flowed into the off-grid solar sector in the first four months of 2014. M-POWER’S parent company, Off-Grid Electric, completed a $7 million round of funding in March, with Microsoft cofounder Paul Allen, the US solar firm SolarCity, and Omidyar Network as lead investors. In February, M-KOPA Solar, a Kenyan pay-as-you-go company, announced that it had raised $20 million to fund the expansion of its customer base – a record amount for the sector.

As with any emerging industry, however, there are inherent risks with start-ups – especially ones that operate in the bush. Investors are naturally wary.

“I’d want to know the statistics: How many of the systems break? How many of them get stolen? How can they stop users from hacking into their meters and getting power for free?” says Anders

Hauch, the investment director of Frontier Investment Management, a Danish firm that specializes in renewable energy projects.

These are some of the problems that doomed previous attempts at establishing solar energy in Africa in the 1970s and '80s. But Helgesen says they are all woes that Off-Grid Electric has anticipated and successfully tackled. Before the company deployed its first pilot system, it bought "every solar product ever made" to test it in the field. Most broke down within a month, but one – from its current supplier – endured remarkably well in the rough rural conditions, with breakage rates in the single digits.

The company also created its own software, which links each M-POWER system sold to the address, cellphone number, and electricity use of each customer. Any lack of payment (or unusual payment pattern) is detected immediately, limiting the possibility of hacking or fraud. Ms. Mackey, Helgesen, and Mr. De Pascale are aware that companies like theirs, seemingly populated by idealistic 20- and 30-somethings who want to change the world, are the outsiders and underdogs of the energy field. Nevertheless, they hope that, ultimately, the success of their business model will speak for itself.

"We're not just doing this out of the goodness of our hearts," says De Pascale. "We're in it for the money."

* * *

The idea that off-grid solar power makes both shillings and sense would certainly have found a few skeptics at the "Powering Africa" conference, held in Tanzania's largest city, Dar es Salaam, early last year. The three-day affair, which Helgesen and Mackey attended, brought together all of the country's energy titans in a luxury oceanfront hotel. Of the 126 participants in attendance, many were white, middle-aged men. ("Will the bankers and lawyers please stand up?" a panel speaker quipped.)

"The reality is that no big investor is going to seriously consider funding off-grid rural electrification projects," said Chris Ford, the head of asset management for the British power company Globeleq, in an interview at the conference. "It's just too difficult to make money in that space."

Nico Tyabji, an associate at Bloomberg New Energy Finance, views the emerging small-scale solar industry with more optimism – but is still cautious.

"It's an exciting area, with high growth potential," he says in a phone interview. "That being said, it's been heavily incubated by development financing up until now. None of these companies has yet proven it can scale [up] with significant commercial investment, but they're trying out different technologies and business models. We're seeing a lot of innovation."

Others worry that the power offered by off-grid solar is too limited to answer Africa's growing electricity needs: Most systems currently on the market only power a few lights and cellphone chargers, not energy-intensive appliances.

"Africa must not be cornered to focus just on green energy," says Mwangi Kimenyi, a senior fellow with the Africa Growth Initiative at the Brookings Institution in Washington. In an e-mail, Mr. Kimenyi stresses the need to invest in all power sources to boost electricity supply across Africa – including

the continent's recently discovered coal, oil, and natural gas reserves. "These will be cheaper sources and, given that Africa's contribution to greenhouse gases is very low, it must utilize these sources."

But others believe that pushing the development of fossil fuel-produced electricity over off-grid solutions is a colossal mistake. They argue that, for many poor people, replacing a candle with an LED light is already transformative. Even if they were connected to the grid, most rural Africans couldn't afford larger appliances such as refrigerators or air conditioners.

Moreover, the International Energy Agency has said that if the world is to meet the UN goal of achieving universal energy access by 2030, more than half of all power-sector investments should be going to off-grid, clean energy services.

"The time frame for deploying solar is now; the time frame for extending centralized grids is hypothetically decades from now," says Justin Guay of the Sierra Club in San Francisco. "Should millions remain in the dark while big corporations are busy digging up dirty coal?"

Back in Dar es Salaam, participants of the Power Africa conference gathered to unwind on the hotel's private dock after a grueling day of talks. Sipping a cold drink, Helgesen surveyed the mingling crowd.

"Even if every single project announced in this conference gets going on schedule – and that's a big if – then, sure, Dar es Salaam will get power, and the mines will get power," he mused. "But the 80 percent of rural Tanzanians without electricity? Forget them."

* * *

He wouldn't get an argument from Noah and her family. When she and her late husband moved into their house in 2004, they paid about a $200 connection fee to TANESCO, the Tanzanian national utility, to extend a power line to their home. After a six-month wait, workers finally erected a utility pole outside their home, unspooled some wires, and attached a meter to the wall. The family put in a few sockets, light bulbs, and switches.

But the power never came. "I have no idea why it didn't work," Noah says. "All I know is that the lights never came on."

They have power now, though, with the help of the sun. And no one is happier on those inky dark nights than 2-year-old Emilia.

Lorena Galliot reported this story while on a Pulitzer Fellowship awarded by Columbia University's Graduate School of Journalism.

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4. Africa: Will Africa's biggest wind power project transform Kenya's growth? | January 29 | CNN.com

Source URL: http://www.cnn.com/2015/01/29/business/ltwp-kenya-windpower/index.html

CNN Marketplace Africa covers the macro trends impacting the region and also focuses on the continent's key industries and corporations.

(CNN)Kenya has stepped up its efforts to transform 40,000 acres of land into a wind farm, in a bid to meet growing demand for electricity.

The 300 MW Lake Turkana Wind Power Project, which is being developed in the country's North-East, hopes to produce 20% of the country's current installed electricity generating capacity when it comes online in 2016.

The $694 million project achieved full financial close in December 2014, making it the largest private investment in Kenyan history.

"The success of this project, even though it has taken a long time to become successful, will inspire confidence in investors," says William Macpherson, sub-Saharan African energy analyst at African Energy Consultancy. "It's a renewable plant -- which is harder to get right than other power plants -- and that it looks like it will be online relatively soon shows the government has got its priorities right."

The project is one part of the country's ambitious project to add 5,000 MW of power onto the grid in the next three years.

An international consortium of lenders and producers, which includes the African Development Bank, British company Aldwych International and Standard Bank, is aiming to install 365 wind turbines. The 52-meter blade span windmills will take advantage of high winds in the remote area.

These breezy conditions are set to cause a jobs windfall. Over the 32 months when the hardware will be installed and new roads built, the project will employ as many as 2,500 people on a temporary basis. Once the wind farm is up and running, 200 people will be employed at the site on a full-time basis throughout the operating period.

And such confidence in Kenya's power sector was badly needed after disappointments elsewhere. The Dongo Kundu power plant near Mombasa has suffered long delays after the procurement process failed to produce a viable partner for the government, who wanted to build the Liquified Natural Gas facility in just 18 months.

"If all goes well with the Lake Turkana project, as we expect, it will relieve some of the pressure on the country's energy targets," explains Macpherson.

The government will want to move away from reliance on hydro as rain fall patterns are unreliable in the region

William Macpherson, sub-Saharan African energy analyst at African Energy Consultancy

Power shortages

The Turkana investment, which is expected to generate $150 million a year in foreign currency savings to Kenya, could have an impact on houses and businesses that are forced to use diesel generators during power black outs.

Indeed, in early January, a transmission line failure left over half the country without power for four hours. According to Kenya Power, the country's main electricity transmission company, there were three widespread interruptions of power affecting 75% of the country in 2014.

"In the first month of 2015, we saw approximately nine interruptions per 1,000 customers in one month at the household level," explains Benson Muriithi, general manager of Network Management at Kenya Power. "The plan is to bring that down to two interruptions per 1,000 customers by 2016 or 2017."

State-owned power company KenGen produces approximately 80% of electricity consumed in Kenya, and of that, 65% comes from hydro-power sources. It is KenGen which provides the power to Kenya Power.

"While blackouts in Nairobi are not so frequent as they once were, there is still an issue with electricity supply," says Macpherson. "The government will want to move away from reliance on hydro as rainfall patterns are unreliable in the region."

And as demand for electricity grows, that issue is not going away. Electricity consumption grew by 9% between 2010 and 2011, according to the Institute of Economic Affairs and some estimates say demand will grow by a further 12% by 2030.

As well as adding to electricity supply, some businesses will also be hoping the Lake Turkana Wind Power Project contributes to a decrease in power bills. According to the Norwegian Investment Fund for Developing Countries, Kenya Power will buy the power produced at the Turkana Wind Farm at a fixed price over 20 years.

Regional powerhouse

But it's not just the east African country investing in renewable energy. According to EcoMENA, Morocco's Ministry of Energy is planning a $13 billion expansion of wind, solar and hydroelectric power generation projects as part of the country's goal to make renewables 42% of the energy mix by 2020.

Ghana, meanwhile, is constructing the world's fourth largest solar farm. The Nzema project, in the country's Western Region, will have an installed capacity of 155MWp when it becomes operational later this year.

While these projects will help build energy supply on the continent, the International Energy Agency has said sub-Saharan Africa needs to invest $300 billion in order to achieve universal electricity access by 2030.

Once up and running, the Turkana Wind Power Project will have the largest amount of wind turbines on the continent, even more than the 300MW Tarfaya wind farm in Morocco, which is currently Africa's biggest wind farm with 131 turbines. It will also be larger than Ashegoda power generating complex in neighboring Ethiopia, which opened in October 2013.

Construction is set to begin early 2015, but if the Lake Turkana Wind Power Project does what it's supposed to then Kenyans could be in for fewer blackouts and a more connected future.

"We can expect the Lake Turkana Wind Power project to bring change gradually," says Kenya Power's Muriithi. "As demand for electricity grows, we will see electricity generated from wind turbines play a more important role in Kenya's and reduce power costs in the country."

5. East Africa - Uganda: Kampala Slaughterhouse Turns Waste to Biogas | Feb. 2 | Thompson Reuters

Source URL: http://allafrica.com/stories/201502031202.html

By Sophie Mbugua

Kampala — Uganda's largest slaughterhouse runs 24 hours a day, turning up to 700 cattle, 200 sheep and 300 chickens each day into meat for the local market.

But the energy-thirsty Kampala City Abattoir is often brought to a stutter by the city's daily power outages, which can last up to 12 hours. At those times, it is forced to rely on polluting diesel generators that are expensive to run.

Then there's the problem of the large amounts of blood, wastewater and other waste produced, much of which is drained directly into nearby Murchison Bay in Lake Victoria.

Across East Africa, increases in processing of agricultural products - a change meant to boost local economics and provide jobs - is being accompanied by an increase in organic waste dumped into bodies of water and open landfills.

But a pilot project to turn that waste into biogas is getting started this month in Uganda, Ethiopia and Tanzania.

Funded by the Swedish International Development Cooperation Agency (SIDA) through the Bio-resources Innovations Network for Eastern Africa (Bio-Innovate), the effort aims to provide training and technology to agricultural factories to help them generate their own power, save on electricity and cut down on climate-changing emissions.

CAPTURING CHEAP ENERGY

At the Kampala City Abattoir, the changeover is already underway.

To turn waste into power, the slaughterhouse puts its waste and wastewater through a fermentation process that releases methane, which is then captured and burned to produce electricity.

The facility uses the biogas it produces to power its generator.

"We are generating on average about 10 to 15 cubic metres of biogas daily," said Joseph Kyambadde, head of biochemistry at Makerere University and one of those involved with the project.

"With 60 cubic metres of gas we (would be) able to run about 15 security lights, 15 deep freezers and 15 refrigerators at the abattoir, helping save around 8 million Ugandan shillings ($2,800) per month," he said.

To add to the project's green credentials, it uses solar panels to heat water and raise the temperature in the digester, to allow it to produce the most burnable methane, said Robinson Odong, a biological sciences lecturer at Makerere University and a manager of the biogas project.

Besides helping the slaughterhouse get around the city's frequent blackouts, using biogas for energy has cut the plant's monthly diesel bill by 90 percent.

"We are now spending 300,000 Ugandan shillings ($105) per month on diesel instead of 3.5 million shillings ($1,200), as the generator now runs on biogas during power blackouts," said Nsubuga Muhamed, the Kampala City Abattoir secretary.

PLANS TO SCALE UP

According to Odong, the project currently treats 40 percent of the Kampala abattoir's waste, though the facility plans to eventually treat 100 percent.

"There are plans to upscale the technology to completely rely on biogas and sell the excess (energy) to the national grid," said Kyambadde of Makerere University.

Using $275,000 in SIDA funding, backers hope to replicate the project across Uganda, said Allan Liavoga, manager of the Bio-Innovate project.

Uganda's government is also watching the effort closely, to see if it might offer one answer to Uganda's energy problems.

"We are an energy-poor country, with 95 percent of rural households having no access to electricity," said Ronald Kaggwa, an environmental economist at the Uganda National Environmental Management Authority.

If the biogas project is scaled up, it could allow Ugandans who live too far from the power grid to generate their own energy, he said.

And if the country could turn more of its waste and wastewater into biogas, it would also be closer to its goals of switching to greener power sources and reducing deforestation, officials say.

"About 15-20 percent of our felled trees are used to produce charcoal (which is in) demand in urban areas," Kaggwa said. But "biogas will help us save our forests," he said.

- Reporting by Sophie Mbugua; editing by Laurie Goering

6. Ghana: General Electric to produce 1,200 Megawatts of power | Jan. 28 | GhanaWeb.com

Source URL: http://www.ghanaweb.com/GhanaHomePage/NewsArchive/artikel.php?ID=344319
American multinational giant, General Electric (GE), says it is ready to roll out its Ghana 1,000 power project.

The $1-billion project will lead to the establishment of a 1,200-megawatt thermal power project in the Western Region.

The Global Chairman and Chief Executive Officer (CEO) of GE, Mr Jeff Immelt, called on President John Dramani Mahama at the Peduase Lodge yesterday to brief him on his company's readiness for the commencement of the project.

The meeting was a follow-up to President Mahama's visit to the United States of America (USA) where he attended the US-Africa Leaders' Summit in Washington, DC, in August last year.

During the visit, GE revealed that it wanted to make Ghana a major hub for its power business in Africa.

The project will be completed in September 2016.

The Ghana 1000 power project, which GE is initiating in conjunction with Endeavor Energy, Eranove (formerly Finalisation), Sage Petroleum and the Ghanaian government, will create the largest integrated gas power project in sub-Saharan Africa.

The project, when it comes on stream, will drastically cut down the cost of electricity and enhance stability in power supply.

It will include a floating storage and regasification unit to facilitate the importation of liquefied natural gas (LNG) for power generation.

President Mahama thanked GE for its significant investments in the power sector.

He said even though the project was called the Ghana 1,000 project, the country expected about 1,200 megawatts of power from the thermal facility.

"This will be the single largest injection of power into our transmission grid in history," he said.

The President said the fact that the first phase of the project would be LNG driven was consistent with the government's efforts at diversifying the sources of fuel for power production.

For many years, Ghana's over-reliance on hydro has caused the nation dearly.

The investment is being made in the context of the Millennium Challenge Compact.

"We also see it in the context of President Obama's power Africa project, which then means that with a project like GE's, we can leverage American financing to be able to execute this project to enhance Ghana's energy security," the President said.

He said power supply had become the most binding constraint on Africa.

He added that the President of a West African country sent a special envoy to him last Monday requesting for standby generators from Ghana, since the water level of their main hydro power dam

had dropped substantially, which meant that it was not only Ghana that was suffering from energy challenges.

He said many memoranda of understanding had been signed to provide additional power to resolve the current crisis.

Mr Immelt said GE was making good its commitment to improve Ghana's energy sector.

He said GE was committed to the implementation of the "Ghana 1,000" project, which was expected to be inaugurated in the third quarter of 2016.

http://www.ghanaweb.com/GhanaHomePage/NewsArchive/artikel.php?ID=344319&comment=0 - com

7. Ghana: Power crisis: Energy Commission considers compulsory use of solar for homes | Feb. 5 | citifmonline

Source URL: http://www.citifmonline.com/2015/02/05/power-crisis-energy-commission-considers-compulsory-use-solar-homes/

Thursday 5th February , 2015 2:08 pm

The Energy Commission (EC) has commenced moves to get a law which will make it compulsory for home owners to inculcate the use of solar in new buildings following the country's power crisis.

Citi Business News has learnt the Energy Commission will in two weeks meet with the Ghana Real Estate Developers Association (GREDA) over the move.

According to the Executive Secretary of the Energy Commission, Dr. Alfred Ofosu Ahenkorah "We will be meeting the Real Estate Developers in two weeks to discuss our proposals for amendments of the building code. We started talking about this long ago, indeed this idea was muted in the 80's by the national energy board then but at the time the cost of the technology was so high and therefore it could not be easily be implement'.He said.

The discussions will also centre around proposed amendments of the building code and the use of other forms of energy in future homes to avert any future power crisis.

Due to the intensified nature of the power outages in the country, there have been calls for a law which will compel home owners and Real Estate developers to include solar energy.

Speaking to Citi Business News Dr. Alfred Ofosu Ahenkorah said solar technology is cheap and the best form of alternative energy.

'I remember at one time we contacted the estate developers and really at the time electricity was cheap they were low prices so that people did not really understand. But now that the call is coming from the masses we will do that. It is nothing new and we support it, in the past the cost was high today it is not'.

He adds that if there are any incentives you can import solar without paying any duty on them so the incentives are already there. What may be important is if government will want to do that it may be to give extra support which may be decided at a later forum but already there are no import duties on solar panels'. He stressed.

Meanwhile GREDA has welcomed the call for new homes and settlements to have solar energy to help cut down on the increase base load on the national grid.

According to GREDA's Executive Secretary, Sammy Amegayibor it is ready to implement such policies expect for the expensive nature of the solar power equipment.

'Well I guess we are all aware of the energy crises and for that matter we all have to put our hand on deck and see what we can contribute to let us out of this mess. It's a good call because we cannot depend on the national grid at all times but it is not just about asking developer to inculcate solar systems in their construction that will avert the problem, we have to do a lot more'.

He calls for Public Private Partnership in implementing the new policy since installing solar technology is expensive.

'As you are aware everybody complains about even the cost of the house as they are. To install a solar system that will be sufficient to power all the electrical gadgets that are usually available in a flat or one house, its tells you that it's not going to be a small cost with the initial cost anyway, in the long term its becomes cheaper to the owner. Most of us are already grappling with the perception that real estate houses are overpriced, it not that they are overpriced but it is what goes into it and adding the cost of solar system to it is going to increase it'. He said.

By: Norvan Acquah – Hayford/citifmonline.com/Ghana

8. Kenya: Kenya Focused On Developing Green Energy, Says Ruto | Jan. 23 | CapitalFM

Source URL: http://allafrica.com/stories/201501231575.html

Davos — The Government plans to provide electricity to at least 70 percent of Kenyans in the next three years, Deputy President William Ruto has said.

Speaking in Davos, Switzerland, Ruto said the government had engaged in the ambitious project including infrastructural development so as to spur economic growth. He said Kenya wanted to create an environment that will attract investment to the country and create employment.

"Kenya is looking forward to generate clean energy. In the next three years we will have 300 percent supply of electricity. We want it to reach 70 percent of our population."

He said with cheap power supply and good infrastructure, entrepreneurs will find Kenya a good place for their investment.

The power project is funded by the African Development Bank.

Former U.S. Vice President Al Gore hailed Africa and particularly Kenya on the use of mobile phone money transfer. He said Africa needed to light up homes and industries for development to be realised.

Speaking at the same meeting, Gore, the chairman of Generation Investment Management, said Africa was proving itself in matters of technology.

Mali President Ibrahim Boubacar, Ivory Coast Prime Minister Kablan Duncan and Nigerian business magnate Tony Elumelu also addressed the meeting.

Later, Ruto also addressed the meeting on food security situation in Kenya and how to improve the image of the African continent.

Elumelu, who is an investor in the energy sector, asked African countries to provide the necessary environment for the private sector to prosper.

More than 600 million people Africa do not have access to reliable energy, which limits their quality of life and development.

The forum that included investors, Governments and developers explored ways of financing, new technology and business models-including off-grid distributed energy solutions-that can be developed to provide more people with power.a

9. Kenya: Naivasha Biogas Plant to Add 2.2mw to the National Grid | Feb. 4 | CapitalFM

Source URL: http://allafrica.com/stories/201502050085.html

By Ken Kagicha

A green power plant that uses organic crop waste is set to be commissioned in March 2015 in Naivasha, adding up to 2.2MW to the national grid. Tropical Power Energy Group has built the first Anaerobic Digester (AD) plant in Africa with a plan to supply electricity to Kenya Power.

This facility utilises local organic crop waste that is digested by micro-organisms feeding in the absence of oxygen to produce biogas. The biogas is then combusted in gas engines to produce electricity and heat.

"The Gorge Farm AD Plant is a pioneering power project for Kenya. Distributed power projects are vital to Kenya's energy security, reliability and efficiency, by generating electricity close to the point of use," says Johnnie McMillan, Managing Director, Tropical Power.

"Through biogas and solar, we want to displace expensive and imported generation fuels - like diesel and heavy fuel oil - from Kenya's distributed power mix. The Gorge Farm AD Plant is physical proof that locally-produced feedstock can be used to generate clean and cost-effective distributed power for all Kenyans."

The Gorge Farm AD Plant utilises 50,000 tonnes of organic crop waste each year. It will produce at least35,000 tonnes of nitrogen-rich matter as a by-product from the biogas process. Gorge Farm will use this as rich natural fertiliser to improve soil conditioning and crop yields.

McMillan vouches for the AD technology which takes advantage of large scale farming, as well as food and beverage production.

"This is exciting for Kenya, where agriculture is a mainstay of the economy and there is a strong domestic food production capability. We have worked with tier one partners to ensure the bankability of this and future projects for farmers and feedstock owners."

General Electric's Jenbacher gas engines are being used for the first time in East Africa in a renewable energy project. The containerized gas engines are configured for cogeneration, with surplus heat recovered as hot water and used to support the Plant's process heating.

The Gorge Farm AD Plant was constructed in 12 months and it cost US$6.5 million (Sh591 million) to build. It is projected to have a 5.5-year payback period -due to the combination of grid sales and higher tariff energy supply to Gorge Farm. The plant has an effective lifecycle of more than 20 years.

10. Kenya: Slum Electrification Programme for Slum Residents Only - KPLC | Feb. 5 | The Star

Source URL: http://allafrica.com/stories/201502050244.html

By Eugene Okumu

KPLC has said the subsidised slum electrification programme will only serve qualified slum residents.

This is after the company said it received queries from customers and members of the public regarding electricity connection charges.

"The management wishes to clarify that the subsidised charge of Sh1,160 for each connection under the Global Partnership on Output-Based Aid (GPOBA) programme is only applicable for qualifying residents of the slums/informal settlements," KPLC said in a press release.

The company further stated that under the GPOBA, Kenya Power and the World Bank contribute Sh11,970 and Sh19,350 respectively for each of the connections in the informal settlements in the country.

The programme was launched in partnership with the World Bank to solve the challenge of illegal connections in the informal settlements as the residents could not afford the actual connection charges.

11. Kenya: Solar to Grab Bigger Slice of Kenya's Clean Energy Pie | Jan. 23 | Thompson Reuters

Source URL: http://allafrica.com/stories/201501261276.html

By Maina Waruru

Nairobi — Kenya is moving to boost its solar energy capacity, with a new plant now under construction aiming to start producing electricity for the national grid by January 2016.

This heralds a shift in the balance of the country's efforts to embrace renewable energy, which have so far focused on hydropower, geothermal and a small amount of wind.

Independent power producer Greenmillenia Energy Limited (GEL) has said it will begin generation at its 40 megawatt (MW) solar plant in Isiolo County in northern Kenya in a year's time.

"This project represents a sustainable renewable energy investment, which allows both (GEL) and the government of Kenya to take a lead in the global clean energy revolution," Bartholomew Simiyu, GEL's advisory director, told the Thomson Reuters Foundation.

"It sends the right signal for clean energy investments in Kenya," he added.

The company has presented the required technical, environmental and financial assessments to the government, and has acquired a generating license from the Energy Regulatory Commission (ERC), Simiyu said.

It is negotiating with electricity distributor Kenya Power on tariffs ahead of the 2016 generation start date.

The GEL plant will cost $86 million to build and is being financed by the Export-Import Bank of China, with the African Development Bank expected to come on board later.

Another solar plant of the same capacity is planned on the outskirts of Eldoret by Alten Kenya Solarfarms, which has Spanish backers, although it is unclear when production will begin.

Kenya - where geothermal now rivals hydro as a major source of power - is racing to reach total installed capacity from all energy sources of 5,000 MW by 2018.

Kenya's new solar plants, once finished, would eclipse the size of others in East Africa. Currently the biggest is Rwanda's Agahozo solar farm, with capacity of 8.5 MW, equivalent to 7 percent of the tiny nation's installed capacity.

Simiyu said the GEL plant would deliver reliable and predictable power to Kenya's grid at a fixed price for a minimum of two decades, and bring other social and economic advantages.

Local communities would benefit from jobs for those with construction and engineering skills, and neighbouring villages and public institutions would gain access to electricity, expanding their opportunities, he said.

UNTAPPED POTENTIAL

The company - which also has operations in Uganda, Tanzania and Rwanda - is carrying out site surveys in different parts of Kenya, with a view to generating 360 MW of power from solar and wind in the next 15 years, Simiyu said.

Studies by the ERC have indicated that Kenya receives 4 to 6 kilowatt hours of sunshine per square metre each day. But very little has been harnessed to generate power on a large scale.

While tens of thousands of solar photovoltaic panels have been installed at individual homes and public facilities, they only tap an estimated 20 MW of power, ERC figures show.

According to Pavel Oimeke, the ERC's head of renewable energy, this represents less than 1 percent of solar energy potential in a country where the World Bank estimates just 28 percent of 40 million residents are connected to the grid.

Joseph Mbithi, another ERC official, said there are 19 micro-grid solar systems in operation, all run by Kenya Power. They only have capacity of 19 MW, but provide back-up to thermal generators in remote northern towns.

Kenya has been hailed as an African leader in exploiting its geothermal resources. But this has not been the case for solar and wind.

DIVERSIFIED RISK

Last year, another company, Bluesea Energy Limited, announced it would begin generating 40 MW of wind power in the central region of Meru in late 2015. That would come ahead of the 300 MW Lake Turkana Wind Power project, which hopes to begin production for the national grid in 2019.

The Lake Turkana scheme is being developed by a consortium of African, British and Danish companies, with backing from Scandinavian state development funds.

If the Greenmillenia, Alten and Bluesea projects progress as planned, they would jointly generate some 120 MW of solar and wind energy to help power Kenya's growing economy. That would put the country firmly on the map of the low-carbon transformation taking root in parts of the developing world.

A more diverse renewable energy mix can help maintain power supplies as weather and climate conditions shift, said George Frambo, a consultant with U.S.-based firm Clark Engineering.

Hydropower production, for example, can dip when reservoir levels drop during dry periods.

"Changes in weather conditions - be they global or local - cannot affect all of these resources in the same way at the same time," Frambo said.

- Reporting by Maina Waruru; editing by Megan Rowling

12. Kenya: Turning Blood to Power, Maasai Pastoralists Begin Bottling Biogas | Jan. 11 | Thomspon Reuters

Source URL: http://allafrica.com/stories/201501121916.html

By James Karuga

Kiserian — Maasai pastoralists have found an innovative way to generate biogas: using animal blood and waste from the Keekonyokie slaughterhouse.

The facility in Kenya's Kajiado County uses the gas it produces to generate electricity that powers the meat cold room and processing equipment. It also pipes the gas to local hotels, while the slurry becomes fertiliser for grazing pastures.

Now the Maasai hope to take the project a step further and become the first group in the country to package the alternative fuel into cylinders - and finally make it mobile.

According to project leader Michael Kibue, the group of 320 pastoralists anticipates that by March 2015 they will be selling their Keeko Biogas in 6 kilogram cylinders. Each should cost around Ksh 700 ($8), half the cost of conventional liquefied (LP) petroleum gas.

The slaughterhouse can afford to sell its biogas so cheaply because, with an average 120 cows and 400 sheep and goats slaughtered daily, "raw input is assured and at zero cost," said Kibue.

Even the process of pumping the gas into cylinders costs nothing, he adds, because it's powered by the slaughterhouse's own biogas.

The fuel is also hotter than LP gas "and it is highly combustible, so it allows you to cook faster", said Erastus Gatebe of the Kenya Industrial Research and Development Institute (KIRDI), which provides technical support on the Keeko Biogas project. Gatebe said biogas can be as much as 30 to 40 percent more energy efficient than propane or butane.

CUTTING COSTS

Before it started producing biogas in 2005, the Keekonyokie plant was spending Ksh 36,000 ($400) every week on waste disposal in order to meet standards set by the National Environmental Management Authority (NEMA).

By generating fuel from its waste and selling what biogas it doesn't need, the slaughterhouse can now expand its revenue sources beyond the sale of meat.

Currently the facility, which sits on 4 acres of land, is capable of generating enough biogas in a day to fill one hundred 6 kg cylinders. According to KIRDI's Gatebe, if the slaughterhouse upgrades its facilities with secondary biogas digesters it can generate three times that amount.

The Kenya Climate Innovation Centre, a World Bank initiative, is providing funding to help with the upgrade.

Kapunei Ole Tunda, chairman of Keekonyokie slaughterhouse, sees environmental as well as economic benefits to selling biogas in cylinders. He believes the venture could help save the trees in and around Maasai villages.

"We cut down a lot of trees for charcoal and we hope to reduce that, since they keep our air clean," he said.

According to project leader Kibue, buyers have already begun making enquiries about the cylinders of Keeko Biogas. Two women's groups have expressed interest in the product, including one in Nairobi's Kibera slum that makes yoghurt and wants to cut its energy expenses.

CUTTING EMISSIONS

John Maina, the principal renewable energy officer at Kenya's Ministry of Energy and Petroleum, said the government supports ventures such as Keeko Biogas that reduce the amount of methane escaping into the atmosphere.

Methane, the gas released when animal waste decays, is roughly 30 times more potent than carbon dioxide in producing climate change, according to the journal Nature.

India has already seen success in packaging biogas into cylinders. A recent report by India's Ministry of New and Renewable energy says that 11 projects have so far been commissioned and licensed to package biogas into compressed natural gas (CNG) cylinders.

India's bottled biogas is supplied to hotels and companies for cooking and heating.

According to a 2010 report by the Kenya Institute for Public Policy Research and Analysis, biogas use in Kenya is currently very small. But the country spends around $900 million a year on off-grid lighting, and fuel-based light sources in the country are responsible for over 2.3 million tons of carbon dioxide emissions per year according to the United Nations Environment Programme.

The Maasai pastoralists who run Keekonyokie slaughterhouse see a big market for bottled biogas in Kenya. Once KIRDI finishes safety testing of the biogas cylinders, "we start rolling it out", Kibue said.

- Reporting by James Karuga; editing by Laurie Goering

13. Nigeria: FG to Inaugurate Over 1 Million Prepayment Meters | Jan. 15 | The Guardian

Source URL: http://allafrica.com/stories/201501160386.html

The Minister of Power, Prof. Chinedu Nebo, on Thursday in Abuja said that the Federal Government would soon inaugurate over one million prepayment electricity meters to reduce the metering gap nationwide.

Nebo said this at a town hall meeting with stakeholders, organised by the ministry.

He said that the intervention was to help electricity distribution companies, in which government had 40 per cent share, to reduce the metering gap.

"Government still owns 40 per cent of the DISCOs. This is why it is still giving out its own counterpart funding, " he said.

Nebo said that a mechanism was being worked out for the equitable distribution of the products to the companies.

"We still believe that every consumer should be metered; the only way to stop over billing is to provide meters to consumers," he said.

He said that the availability of the prepayment meters was critical to the abolition of estimated billing by distribution companies.

On pipelines vandalism, he said that plans were underway by government to digitise the pipelines to forestall vandalism.

He said there was the need for a legislation to provide stiffer penalties to punish pipeline vandals.

The minister said that the country had the highest rate of electricity theft worldwide.

Nebo said that the Federal Government was collaborating with security agencies to protect pipelines across the country.

"Sabotage incidents have constrained gas supply plants and held generation at less than 4,500 mega watts, " he said.

Nebo said that in spite of the challenges, there had been improvements in power supply in the country.

"It is a shame for some people to go about saying that government has not done anything in the sector," he said.

He said that the current administration inherited a dilapidated power sector.

Nebo said that under the gas master plan, all power plants had been connected to the 450 kilometre gas pipelines constructed by the Federal Government.

Earlier, the Permanent Secretary in the ministry, Dr Godknows Igali, said that the meeting was aimed at getting feedback from consumers and other stakeholders.

He said that prior to the privitisation of the sector, most Nigerians were skeptical about its success.

In attendance at the meeting were distribution and generation companies, non-governmental organisations and some individual stakeholders.

(NAN)

14. Nigeria: Lagos to Deploy Solar Energy in 172 Rural Schools By June | Feb.4 | Vanguard

Source URL: http://allafrica.com/stories/201502050400.html

The General Manager of the Lagos State Electricity Board, Mrs Damilola Ogunbiyi, on Wednesday said the state would deploy solar power in 172 rural schools in the state by June. Ogunbiyi spoke in Lagos when the Lagos branch of the Nigerian Institution of Electrical and Electronic Engineers (NIEEE) paid her a courtesy visit.

"We are deploying solar energy to about 172 schools and temporary healthcare centres all around Lagos so that all our riverine and rural schools would be powered by solar by June," she said. Ogunbiyi said that the Lagos Energy Academy was built by the state government to create jobs, provide qualified manpower for the distribution companies and bridge the energy needs of the nation.

She lamented the fall in standard of education which shifted the focus of the academy from admitting technical college students to university graduates. Ogunbiyi said that Siemens regulated the trainings and certified the engineers in conformity with standards. "Our educational system has failed us so much that we are not getting the quality of people that we were hoping to get.

"This same exams that they give to 17 year olds in Siemens, our electrical engineering graduates hardly pass. "So as an organisation, I think you need to go look at technical and university institutions because if you say you are a graduate or have masters in electrical engineering and you cannot tell how a transformer works, then there is a problem. "I wanted technical college students to go out there and fix the problem but they do not pass at all," she said.

The general manager said the board was partnering with the private sector and the government to develop a direct labour force to maintain street lights and other issues of power in the state. The Chairman of NIEEE, Mr Michael Akan, who led the delegation, said that the association was ready to partner with the board in training and other projects.

"We want to see how we can partner with you in any of your activities because we have a depository of resource persons in the energy and power sector to move Lagos State forward," he said. The team was conducted round the academy and the various power plants where they shared views with the various engineers.

15. Nigeria: Oil-Rich Niger Delta Aims to 'Light Up' With Renewable Energy | Feb. 2 | deutsche welle

Source URL: http://allafrica.com/stories/201502030253.html

The Niger Delta is the source of Nigeria's oil. But even here, most people struggle to access grid electricity. Efforts are now being made to diversify to renewable energy as a way of dealing with frequent power cuts.

The waterfront slums of Port Harcourt are constantly faced with complete destruction. The Nigerian government considers the largely self-built communities illegal and vowed to evict around 480,000 people living along the creeks surrounding the city.

On June 2012, when the first bulldozers came and tore down tens of thousands of homes, some in the community stood in the way."They said they wanted to do some developmental projects, that the waterfront community is a slum and that the buildings are not well-planned," said Babakaye Tubonemi, who lives in Port Harcourt's Okrika community.

"Rather than coming to us to plan with us the place, they wanted to do it their own way, which is not right," Tubonemi said.

When Nigerian born filmmaker Michael Uwemedimo first came to Okrikia to document the evictions for Amnesty International, he witnessed first hand the struggles between the slum dwellers and the government. The experience convinced him the community needed an independent voice.

Solar powered community radio

Uwemedimo started building a solar-powered radio station called Chicoco Radio. It is located in the centre of Port Harcourt's waterfront community and surrounded by homes and businesses.

"As we're in an informal, largely self-built community that has no municipal provision at all, it's really important that the facility can serve itself and can be off-grid," said Uwemedimo. "We have sun, we have wind, and so we want to harness that."

The Chicoco radio team has built a training space called the Media Shed.

The roof of Chicoco radio is lined with solar panels which provide energy to run the radio

When the project is completed it is expected to become one of the city's landmarks. The award-winning final design was voted on by the community and will be built mostly by using local materials and expertise.

Chicoco Radio is designed by NLÉ, an architectural company, as part of the African Water Cities project which examines the effects of climate change in coastal cities and waterfront communities. One of the most unique design features is that part of the structure will be floating on water, moving up and down with the tide.

"All the systems will be operated and maintained by people who live here. They were installed by residents and members of the Chicoco team," said Uwemedimo.

The Niger Delta oil curse

Though the Niger Delta holds most of Nigeria's oil and gas reserves most people still struggle to access electricity.

Twenty years ago, Ledum Mitee narrowly escaped the death penalty while campaigning against the Shell oil company and the Nigerian government. He grew up in the Niger Delta and later became a member of the organization called Movement for the Survival of the Ogoni People.

"I grew up in a community that has around 50 oil wells and my first contact with oil was as early as primary school in the village and I grew up to see even when seismic explosions were done right next to our classrooms," said Mitee. "I saw firsthand the devastation that can result from oil exploitation. That's what pushed me."

Mitee was arrested with nine other ethnic Ogoni environmental activists who were charged with organizing the murder of four pro-government chiefs. He would be the only one acquitted. The other nine were executed after a widely condemned military tribunal. "I was fortunate that I was not executed," said Mitee.

"Having led that movement for several years, I see what I'm doing now as some sort of continuation of work." Mitee now works as head of Nigeria's Extractive Industry Transparency Initiative. He says Shell has caused oil spills, profited from the resources, and is still not giving back enough to the communities in the Delta region.

"You have a company in South Africa that invests in renewable energy and you see them coming out saying they are a clean company," said Mitee. "Then you see in this country there's nothing, absolutely nothing that they are trying to do. In fact, they are flaring gas"

One light at a time

Renewable energy is slowly picking up in the Niger Delta. Inemo Samiama is Nigeria's country director for the Stakeholder Democracy Network (SDN), an organization that tackles a wide range of issues on the delta, including energy justice.

"Energy issues are critical especially because the Niger Delta lacks energy. It's just a paradox," said Samiama."When you look at the delta from an airplane in the night, you see gas being flared. And surrounding the gas flares is total darkness. "

SDN started a project on renewable energy. They supplied discounted solar lanterns to communities - each costing 5,000 naira ($26 or 23 euros) but residents can pay in installments.

Oil giant Shell has been blamed for massive oil pollution in the Niger Delta

On the outskirts of Port Harcourt, Adebayo Amos runs a drug store. He says he needs power to run his business. "In this area the challenge that we are facing very much is power," Amos said. "In a month, they'll bring the light twice and even when they bring the light, they are coming to demand for money."

Amos bought one of the solar powered lanterns for his store and says his customers showed so much interest in them that he started selling them. "Almost everyday people used to ask about the light from me," said Amos. "I have been using this one for nine months and it's okay. It lasts for 10 hours. I love it."

Amos quickly sold out the lamps. He hasn't been able to get any more ever since the project ended.

Research on this article was made possible by a grant from the European Journalism Centre.

Author Damon van der Linde and Johan Demarle

16. Nigeria: Torrent Energy Plans 30 Mw Waste-to Power Plant | Jan. 20 | Daily Independent

Source URL: http://allafrica.com/stories/201501210182.html

An indigenous firm, Torrent Energy Limited has revealed that it has concluded plans to build a 30 mega watts waste-to-energy plant as its contribution to improving energy situation in the country.

The company, in a presentation at the Ministry of Power in Abuja, by its Managing and Executive Directors, Okey Chidume and Tudor Mikko respectively, stated that the effort was a bid to key into government's policy of diversifying the country's energy mix.

They explained that waste-to-energy system is a new technology that will generate electricity from waste, emphasizing that adequate power supply was necessary for economic development.

The company's directors noted that the waste-to-energy plant is "a state-of-the-art concept for generation of electricity from waste which allows efficient power generation, efficient waste disposal, and low environmental impact".

According to Chidume, "Nigeria is facing rapid growth in energy demand, persistently high-energy prices, and a challenge to reduce carbon dioxide emissions from power generation. Despite current efforts, access to electricity still remains low and there is still inability to produce enough electricity to meet demands".

"In Nigeria, millions of tons of waste are generated on daily basis, with an estimated ratio of approximately 0.8 kilograms per person per day, and rising. Out of the total solid waste generated, 30 to 45 percent is collected, while over 94 percent is disposed unscientifically".

In his response, Assistant Director, Renewable Rural Power Access, Tope Seton, who spoke on behalf of the ministry, commended the company for the initiative saying it was in line with current realities in achieving energy requirement of the country.

He Stress that the government was currently looking at renewable sources of power, other than hydro-power generation, he assured that the Ministry will assist the company.

17. Nigeria: UNDP, Govt, Stakeholders Mull New Energy Master Plan | Jan. 29 | The Guardian

Source URL: http://allafrica.com/stories/201501300902.html

By Emeka Anuforo and Njadvara Musa

The United Nations Development Program (UNDP), Energy Commission of Nigeria (ECN) and stakeholders in the energy sector yesterday commenced the validation of a new energy master plan for Nigeria.

When finally approved by the Federal Government, the document is expected to chart the way for renewable energy and energy efficiency in Nigeria.

At a workshop to consider the draft National Energy Master Plan (NEPM) in Abuja yesterday, Country Director of UNDP, Pa Lamin Beyai noted how renewable energy and energy efficiency represents the cheapest and the fastest way the country could make clean energy available to rural communities, many of whom are not connected to the national grid.

Beyai stressed: " The Master Plan, which was first developed in 2003 is indeed long overdue for a review and for this process to be successful, we all agree on the importance of the efficient coordination of activities in the energy sector and hence this validation workshop. The Master Plan review is very timely in ensuring scaling up actions aimed at promoting increased access to energy and SE4ALL. Having HPM will not only bridge the policy gap that currently exists, it will also provide the much-needed strategic framework for the coordination of the energy sector within the country.

"Energy is the bedrock of any economy, and a key requirement for both social and economic development of any country. It is one of the major catalysts for industrial development of small and medium scale enterprises, a sector that has provided employment for the majority of Nigerians."

Minister of Science, Abdu Bulama stressed how the new document would be sensitive to current realities without and outside Nigeria.

"Energy plays significant dual role as an indispensable driver of growth in the economy and as generator of income for development in the country," he stressed.

"In order to provide a framework for the implementation of the National Energy Policy, in 2007, the National Energy Master Plan (NEMP) was drafted. The translation of the provisions of the NEP into a long term National Energy Master plan, for its implementation is in line with Article 5(d) of Decree No.62 of 1979 of the ECN's mandate, which empowers the Energy Commission of Nigeria to prepare, after consultation with such agencies of government whose functions related to the field of energy development or supply as the Commission considers appropriate, periodic master plans for the balanced and coordinated development of energy in Nigeria.

Director General of the Energy Commission of Nigeria, Prof Eli Jidere Bala stressed how the revised policy would answer many questions about government's energy policy direction and planned activities on all energy types and crosscutting issues. "This is the type of document investors often sought for," he noted.

Meanwhile, corporate organisations, government and residents in Maiduguri metropolis, Borno State capital yesterday applauded the restoration of 24-hour uninterrupted power supply to the state by the committee on reconnection of power.

Confirming the electricity supply, Manager of Yerwa Business Unit, Engineer Haruna Umar said seven residential areas and industrial estates have been getting uninterrupted electricity supplies, since the reconnection of Borno State by the minister's high-powered committee.

18. Tanzania: IFC to Support Solar Projects | Feb. 5 | Tanzania Daily News

Source URL: http://allafrica.com/stories/201502050224.html

The International Finance Corporation (IFC) has announced new financing to help expand the reach of Off Grid Electric in rural areas and urban centres.

IFC is an international financial institution that offers investment, advisory and asset management services to encourage private sector development in developing countries.

The IFC is a member of the World Bank Group and is headquartered in Washington. The solar leasing company, which provides home solar electric systems to consumers in rural and urban Tanzania, aims to reach 200,000 households by the end of 2015.

"IFC's backing and expertise will help us bring affordable power to millions of people across Africa. We look forward to continuing this important work IFC's support," said Off Grid Electric chief executive, Mr Xavier Helgesen.

According to the IFC, the new facility consists of a 4.5 million dollar loan provided through the IFC Cleantech Innovation Facility and an additional 2.5 million dollar loan from Cordiant Capital of Montreal in Canada.

"The need for renewable energy is urgent in Tanzania, where each year, low-income households spend over 900 million dollars to meet their lighting, cooking and mobile charging needs.

Many use kerosene to fuel their lamps and back-up generators," the IFC said. "Solar energy offers a cleaner, longer-lasting alternative to kerosene fuels, which contribute heavily to greenhouse gases.

Off Grid Electric offers a low cost model for households (while) reducing the upfront cost to customers and minimising the risks associated with maintenance and repair."

The corporation also stated that families can also opt to top up their solar systems in small increments, which may be more in line with their finances.

Mr Oumar Seydi, IFC director for Eastern and Southern Africa added, "As developing countries move to a greener, lowcarbon growth paths, the private sector will play a critical role in expanding access to energy.

IFC supports as the innovation of Off Grid Electric, which provides low-cost, clean energy solutions to the millions of people in Africa not connected to the grid," he said.

Off Grid Electric, specifically, has distributed nearly 35,000 solar home systems in the Arusha, Kilimanjaro and Mwanza regions.

19. Tanzania: Maasai Bomas to Get Solar Power, Computer Connections | Jan. 26 | Tanzania Daily News

Source URL: http://allafrica.com/stories/201501262157.html

By Yasinta Amos

Monduli — THE mud-sealed, straw thatched, traditional Maasai Bomas may not be exactly something you would look at with any interest, except that soon these domestic structures will be exuding electricity light and also will be having computers installed inside.

The International Collaborative for Science Education and Environment (ICSEE) Tanzania in association with the Adventists Development and Relief Agency (ADRA) is executing the 'Maasai Stoves and Solar Project' which is in its fourth year now.

It is targeting to install solar panels onto the traditional enclosures to light up Maasai villages through environmentally friendly methods, something which will help keep wild carnivores away without being subjected to use spears.

The Arusha Regional Commissioner, Mr Daudi Felix Ntibenda, who is currently touring Monduli District was told that nearly 1500 households have benefited from the project since it started in 2012.

It is now planned that computers should also be included in the installation programmes to allow Maasai children get the hang of new technology without leaving their villages.

RC Ntibenda lauded the efforts saying they not only help modernize local villages, but also use environmentally friendly sources of energy which is something that needs to be emulated even in more advanced urban settings.

Project coordinators revealed that United States Agency for International Development through its Partnerships for Enhanced Engagement in Research was the main engine behind such developments.

"Last year, we received 60,000 US dollars (nearly 100 million/-) from USAID through its PEER programme to enable other ten Maasai enclosures (Bomas) to get larger solar panels and now two such Bomas at Silalei and Enguiki have been fixed with the equipment while three others are nearing completion," said Mr Kisioki Ole Moitiko, the Maasai Stoves and Solar Project Manager.

Maasai Bomas are enclosed settlements, each encompassing up to 20 huts and housing between 50 and 100 people.

In Monduli District, men and women worked side by side to help electrify the pilot bomas in the villages of Eluwai and Esilalei, including digging trenches for wires, and preparing new electrical buildings provided by boma leaders for panels and shared appliances.

According to the Manager, the project methods also contribute to wildlife conservation. The lights on the corrals protect livestock while keeping hyenas and other predators away without the need for the traditional use of poisons, spears or swords.

The project was also described to be having healthy benefits; in respect to the reported dangers of smoke in the homes of pastoralists in developing world, caused by indoor cooking with open fires described to be a profound international health issue that affects millions.